II. Amendments to the Specification

Please replace paragraph [0021] with the following amended paragraph:

[0021] The model for vertically oriented sensors is

~~$A_{z,meas} = -g + \ddot{\theta}_v d_{yraRA}$~~ ~~(8)~~

$$A_{z,meas} = -g + \ddot{\theta}_v d_{ytoRA} \quad (8)$$

Hence, from Equations (2) and (5)

$$\begin{aligned} a_{z,body} = -g + \left[a_{41}\dot{y}_v + a_{42} r_v + a_{43}\theta_v + a_{44}\dot{\theta}_v + \frac{C_F}{m}\delta \right] d_{ytoRA} \\ = \left[a_{41} d_{ytoRA} \right] \dot{y}_v \\ + \left[a_{42} d_{ytoRA} \right] r_v \\ + \left[a_{43} d_{ytoRA} \right] \theta_v \\ + \left[a_{44} d_{ytoRA} \right] \dot{\theta}_v \\ + \left[\frac{C_F}{m} d_{ytoRA} \right] \delta \\ + \left[-g \right] \end{aligned} \quad (9)$$

where d_{ytoRA} is the distance along the y axis to the roll axis.